

**UNITED STATES DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE**

**ECOLOGICAL SITE DESCRIPTION**

**ECOLOGICAL SITE CHARACTERISTICS**

**Site Type:** Rangeland

**Site ID:** R039XC051NM

**Site Name:** Mountain Meadow

**Precipitation or Climate Zone:** 16 to 30 inches

**Phase:**

## **PHYSIOGRAPHIC FEATURES**

### **Narrative:**

This site occurs as lower lying positions and can be expected to receive runoff from adjacent sites. A high water table characterizes the site at least seasonally. It may occur as mountain valleys or swales or as parks or park-like areas having a water table within the root zone of the dominant vegetation. Slopes vary from flat to gently sloping, rarely exceeding three percent. Aspect of slope varies but is not significant. Elevation ranges from 6,500 to 12,000 feet above sea level.

### **Land Form:**

1. Mountain valley
2. Swale

### **Aspect:**

1. N/A
- 2.
- 3.

	<b>Minimum</b>	<b>Maximum</b>
<b>Elevation (feet)</b>	6,500	12,000
<b>Slope (percent)</b>	0	3
<b>Water Table Depth (inches)</b>	12	>72
<b>Flooding:</b>	<b>Minimum</b>	<b>Maximum</b>
<b>Frequency</b>	N/A	N/A
<b>Duration</b>	N/A	N/A
<b>Ponding:</b>	<b>Minimum</b>	<b>Maximum</b>
<b>Depth (inches)</b>	N/A	N/A
<b>Frequency</b>	N/A	N/A
<b>Duration</b>	N/A	N/A

### **Runoff Class:**

Negligible to medium.

## **CLIMATIC FEATURES**

### **Narrative:**

The average annual precipitation ranges from 16 to 30 inches. Precipitation increases with elevation. Variations of five inches, more or less, are common. Nearly two-thirds of the precipitation falls in the form of high intensity-short duration thunderstorms, from March to October. Winter precipitation is mainly in the form of snowfalls of six to ten inches.

Mild summers and moderately cold winters characterize temperatures. Large seasonal and diurnal temperature changes occur. The average annual temperature is about 45 degrees F with extremes of 26 degrees F below zero in the winter to 100 degrees F in the summer.

The average frost-free season is 80 to 145 days. The last killing frost is in early May to early June and the first killing frost is in early September to early October.

Temperature and precipitation favor cool-season, perennial plant growth. However, the temperatures are warm enough in the lower elevations to allow the warm-season species to occupy an important part of this plant community. Because of the water table in this site, production, density and types of plants differ greatly from adjoining sites.

Climate data was obtained from <http://www.wrcc.sage.dri.edu/summary/climsmnm.html> web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

	<b>Minimum</b>	<b>Maximum</b>
<b>Frost-free period (days):</b>	106	147
<b>Freeze-free period (days):</b>	134	175
<b>Mean annual precipitation (inches):</b>	16	30

### **Monthly moisture (inches) and temperature (°F) distribution:**

	<b>Precip. Min.</b>	<b>Precip. Max.</b>	<b>Temp. Min.</b>	<b>Temp. Max.</b>
January	0.66	1.68	16.3	49.2
February	0.58	1.90	19.4	53.3
March	0.71	1.55	23.1	60.2
April	0.69	0.99	28.1	67.6
May	0.66	1.27	34.6	75.8
June	0.51	2.50	42.2	85.3
July	1.87	6.13	46.8	87.0
August	1.96	5.89	46.0	83.3
September	1.73	2.91	40.5	77.4
October	1.02	2.64	31.2	68.0
November	0.55	1.66	24.0	57.1
December	0.72	2.25	16.1	50.5

### **Climate Stations:**

Station ID	<u>291440</u>	Location	<u>Capitan, New Mexico</u>	From:	<u>01/01/14</u>	To:	<u>07/31/00</u>
Station ID	<u>291931</u>	Location	<u>Cloudcroft, New Mexico</u>	From:	<u>09/01/87</u>	To:	<u>12/31/01</u>
Station ID	<u>297649</u>	Location	<u>Ruidoso 2NNE, New Mexico</u>	From:	<u>01/01/42</u>	To:	<u>07/31/00</u>
Station ID	<u>298015</u>	Location	<u>Sandia Park, New Mexico</u>	From:	<u>01/01/39</u>	To:	<u>12/31/01</u>
Station ID	<u>298018</u>	Location	<u>Tijeras Ranger Stn, New Mexico</u>	From:	<u>1971</u>	To:	<u>2000</u>

## **INFLUENCING WATER FEATURES**

### **Narrative:**

This site may be influenced by water from a wetland or stream.

### **Wetland description:**

<b>System</b>	<b>Subsystem</b>	<b>Class</b>
N/A		

### **If Riverine Wetland System enter Rosgen Stream Type:**

N/A

## **REPRESENTATIVE SOIL FEATURES**

### **Narrative:**

The soils of this site are quite variable, ranging from shallow to deep. Texture varies from loamy to clayey. The overriding characteristic of the soils of this site is the high water table. These soils are non-saline and have a high organic matter content. Permeability is moderately slow to slow. The available water-holding capacity is medium high to high.

**Parent Material Kind:** Alluvium

**Parent Material Origin:** Mixed

### **Surface Texture:**

1. Loam
2. Clay
3.

### **Surface Texture Modifier:**

1. Cobble
2. Stone
3.

**Subsurface Texture Group:** Clayey

**Surface Fragments  $\leq 3''$  (% Cover):** N/A

**Surface Fragments  $> 3''$  (% Cover):** 15 to 35

**Subsurface Fragments  $\leq 3''$  (% Volume):** N/A

**Subsurface Fragments  $\geq 3''$  (% Volume):** 15 to 35

	<b>Minimum</b>	<b>Maximum</b>
<b>Drainage Class:</b>	<u>Poorly</u>	<u>Well</u>
<b>Permeability Class:</b>	<u>Slow</u>	<u>Moderately slow</u>
<b>Depth (inches):</b>	<u>10</u>	<u><math>&gt; 72</math></u>
<b>Electrical Conductivity (mmhos/cm):</b>	<u>N/A</u>	<u>N/A</u>
<b>Sodium Absorption Ratio:</b>	<u>N/A</u>	<u>N/A</u>
<b>Soil Reaction (1:1 Water):</b>	<u>N/A</u>	<u>N/A</u>
<b>Soil Reaction (0.1M CaCl<sub>2</sub>):</b>	<u>N/A</u>	<u>N/A</u>
<b>Available Water Capacity (inches):</b>	<u>6</u>	<u>12</u>
<b>Calcium Carbonate Equivalent (percent):</b>	<u>N/A</u>	<u>N/A</u>

## **PLANT COMMUNITIES**

### **Ecological Dynamics of the Site:**

### **Plant Communities and Transitional Pathways (diagram)**

**Plant Community Name:** Historic Climax Plant Community

**Plant Community Sequence Number:** 1 **Narrative Label:** HCPC

**Plant Community Narrative:** Historic Climax Plant Community

This site is characterized by mid and short cool-season perennial grasses. Woody vegetation is very sparse and of little importance. Forbs make up a small but important component of this site

Canopy Cover:

Trees 0 – 5 %

Shrubs and half shrubs 0 – 5 %

Ground Cover (Average Percent of Surface Area).

Grasses & Forbs 60 – 80

Bare ground 0 – 10

Surface gravel 0

Surface cobble and stone 0 – 10

Litter (percent) 5 – 15

Litter (average depth in cm.) 3

**Plant Community Annual Production (by plant type):** \_\_\_\_\_

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	1,700	2,338	2,975
Forb	140	192	245
Tree/Shrub/Vine	160	220	280
Lichen			
Moss			
Microbiotic Crusts			
Total	2,000	2,750	3,500

**Plant Community Composition and Group Annual Production:****Plant Type - Grass/Grasslike**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	DECA18	Tufted Hairgrass	413 – 550	413 – 550
2	KOMA	Prairie Junegrass	138 – 275	138 – 275
3	FERU2	Red Fescue	275 – 688	275 – 688
4	BRMA4	Mountain Brome	275 – 688	275 – 688
5	ACHNA	Needlegrass spp. (Subalpine)	275 – 688	275 – 688
6	CACA4	Bluejoint Reedgrass	83 – 138	83 – 138
7	HOBR2	Meadow Barley	83 – 138	83 – 138
8	AGGI2	Redtop	275 – 413	275 – 413
9	MUFI2	Pullup Muhly	0 – 138	0 – 138
10	ELTR7 PASM	Slender Wheatgrass Western Wheatgrass	275 – 413	275 – 413
11	CAREX	Sedge spp.	138 – 413	138 – 413
12	JUNCU	Rush spp.	138 – 413	138 – 413
13	2GRAM	Other Grasses	83 – 275	83 – 275

**Plant Type - Forb**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
14	ASTER	Aster spp.	0 – 138	0 – 138
15	TRIFO	Clover spp.	0 – 275	0 – 275
16	ANTEN	Pussytoes spp.	0 – 83	0 – 83
17	CICUT	Water Hemlock	0 – 138	0 – 138
18	IRIS	Iris spp.	0 – 83	0 – 83
19	2FORB	Other Forbs	0 – 138	0 – 138

**Plant Type – Tree/Shrub/Vine**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
20	ARCAC5	Silver Sagebrush	0 – 138	0 – 138
21	DAFL3	Shrubby Cinquefoil	0 – 138	0 – 138
22	ROSA5	Wildrose spp.	0 – 138	0 – 138
23	2SD	Other Shrubs	0 – 138	0 – 138

**Plant Type - Lichen**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

**Plant Type - Moss**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

**Plant Type - Microbiotic Crusts**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Other grasses that could appear on this site include: Nebraska sedge, oatgrass, spike muhly, blue grama, Baltic rush, timothy, Kentucky bluegrass, Arizona fescue, muttongrass, bulrush, short-awned foxtail and bog bluegrass.

Other woody species that could appear on this site include: ponderosa pine and pinyon pine.

Other forbs that could appear on this site include: bluebells, dandelion, waterleaf, yarrow, viola, groundsel, knotweed, sheep sorrel, skunk cabbage, geranium and poison hemlock.

**Plant Growth Curves**

**Growth Curve ID**    1602NM

**Growth Curve Name:**    HCPC

**Growth Curve Description:**    Mid and short cool-season perennial grassland with minor components of shrubs and forbs.

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	3	5	5	10	25	30	15	7	0	0

## **ECOLOGICAL SITE INTERPRETATIONS**

### **Animal Community:**

#### Habitat for Wildlife:

This site provides habitats which support a resident animal community that is characterized by elk, deer, mountain lion, black bear, gray fox, porcupine, chipmunk, red squirrel, shrew, vole, eagle, goshawk, great horned owl, turkey, harlequin quail, Stellar's jay, white-crowned sparrow, junco, hummingbird, Sacramento Mountain salamander, short-horned lizard, garter snake and black-tailed rattlesnake.

Bald eagle hunts over this site and the Sacramento Mountain salamander is a resident.

A deciduous riparian forest occurs on the floodplains of Eagle, Little and Bonito Creeks and is often associated with west soils. In addition to the wildlife noted above, this habitat supports many species of nesting birds and serves as an important migration route for others. Where open water surface occurs, such as streams, pond and marshes waterfowl, shore and marsh birds and other species associated with wetland habitats are found.

### **Hydrology Functions:**

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

#### **Hydrologic Interpretations**

<b>Soil Series</b>	<b>Hydrologic Group</b>

### **Recreational Uses:**

Recreation potential for camping or picnicking is limited by the density of vegetation produced when the site is in its top ecological condition and by occasional wet areas. The potential for hiking, nature observation and photography is excellent. Where streams or ponds are associated with the site, trout fishing may be available. Hunting for deer, elk and turkey is good and may be excellent where the site is closely associated with mixed conifer forest. Natural beauty of the forest is enhanced by the contrast provided by these open meadows.

Where the site is associated with deciduous riparian forest, many species of birds nest or rest during migration. The potential for birding is excellent.

**Wood Products:**

There is no potential for wood products on this site.

**Other Products:****Grazing:**

This site is suitable for use by all kinds and classes of livestock from early spring to late fall. The length of the grazing season varies with elevations and snow patterns. Cattle and sheep can best utilize the site because of the coarse foliage produced as tufted hairgrass matures. This site does not do well under continuous season-long use. This site should be fenced and managed separately if possible. Grazing should be delayed in the spring so that the grasses can make adequate growth to restore root reserves. For this reason, this site responds well to a system of grazing that rotates the season of use. Grazing of this site when the soil is excessively wet will cause soil compaction, possible composition changes and lower production. As this site regresses, the more palatable species, such as tufted hairgrass, prairie junegrass, mountain muhly, timothy and western wheatgrass will decrease and there will be a corresponding increase in bare ground, Kentucky bluegrass, marsh muhly, sagebrush and other woody plants.

**Other Information:****Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month**

<b>Similarity Index</b>	<b>Ac/AUM</b>
100 - 76	0.75 – 1.5
75 – 51	1.0 – 2.0
50 – 26	1.5 – 3.5
25 – 0	3.5+

Plant Part	Code	Species Preference	Code
Stems	S	None Selected	NS
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruits/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

**Plant Preference by Animal Kind:**

**Animal Kind:** Livestock

**Animal Type:** Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Tufted Hairgrass	Deschampsia caespitosa	EP	D	D	P	P	P	P	P	P	D	D	D	D
Prairie Junegrass	Koeleria macrantha	EP	D	D	D	D	D	D	D	D	D	D	D	D
Red Fescue	Festuca rubra	EP	D	D	D	D	D	D	D	D	D	D	D	D
Mountain Brome	Bromus marginatus	EP	D	D	P	P	P	P	P	P	P	P	P	D
Bluejoint Reedgrass	Calamagrostis canadensis	EP	U	U	D	D	D	D	D	D	D	D	D	U
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Clover	Trifolium spp.	EP	P	P	P	P	P	P	P	P	P	P	P	P

**Animal Kind:** Livestock

**Animal Type:** Horse

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Tufted Hairgrass	Deschampsia caespitosa	EP	D	D	P	P	P	P	P	P	D	D	D	D
Prairie Junegrass	Koeleria macrantha	EP	D	D	D	D	D	D	D	D	D	D	D	D
Red Fescue	Festuca rubra	EP	D	D	D	D	D	D	D	D	D	D	D	D
Mountain Brome	Bromus marginatus	EP	D	D	P	P	P	P	P	P	P	P	P	D
Bluejoint Reedgrass	Calamagrostis canadensis	EP	U	U	D	D	D	D	D	D	D	D	D	U
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Clover	Trifolium spp.	EP	P	P	P	P	P	P	P	P	P	P	P	P

**Animal Kind:** Livestock

**Animal Type:** Sheep

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Prairie Junegrass	Koeleria macrantha	EP	U	U	D	D	D	U	U	U	U	U	U	U
Red Fescue	Festuca rubra	EP	D	D	D	D	D	D	D	D	D	D	D	D
Mountain Brome	Bromus marginatus	EP	D	D	P	P	P	D	D	D	D	D	D	D
Western Wheatgrass	Pascopyrum smithii	EP	U	U	D	D	D	D	D	D	D	D	D	U
Sedge	Carex spp.	EP	U	U	D	D	D	U	U	U	U	U	U	U
Clover	Trifolium spp.	EP	P	P	P	P	P	P	P	P	P	P	P	P

## **SUPPORTING INFORMATION**

### **Associated sites:**

Site Name	Site ID	Site Narrative

### **Similar sites:**

Site Name	Site ID	Site Narrative

### **State Correlation:**

This site has been correlated with the following sites: \_\_\_\_\_

### **Inventory Data References:**

Data Source	# of Records	Sample Period	State	County

### **Type Locality:**

State: New Mexico

County: Lincoln, Otero, Torrance

Latitude: \_\_\_\_\_

Longitude: \_\_\_\_\_

Township: \_\_\_\_\_

Range: \_\_\_\_\_

Section: \_\_\_\_\_

Is the type locality sensitive?    Yes ☐        No ☐

General Legal Description: \_\_\_\_\_

### **Relationship to Other Established Classifications:**

### **Other References:**

Data collection for this site was done in conjunction with the progressive soil surveys within the Arizona and New Mexico Mountains 39 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys. Eddy, Otero, Lincoln and South Chavez Soil Surveys.

Characteristic Soils Are: \_\_\_\_\_

Other Soils included are: \_\_\_\_\_

### **Site Description Approval:**

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Don Sylvester	09/17/81	Don Sylvester	09/17/81

### **Site Description Revision:**

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Elizabeth Wright	03/07/03	George Chavez	10/31/03